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EXAMINER	
FLANIGAN, ALLEN J	
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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Paper No. 15

Application Number: 09/927,274
Filing Date: August 10, 2001
Appellant(s): OTTER, JAMES WILLIAM

Karin H. Butchko
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 12/18/2002.

(1) Real Party in Interest

A statement identifying the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

(3) Status of Claims

The statement of the status of the claims contained in the brief is correct.

(4) Status of Amendments After Final

No amendment after final has been filed.

(5) Summary of Invention

The summary of invention contained in the brief is correct.

(6) Issues

The appellant's statement of the issues in the brief is correct.

(7) Grouping of Claims

Appellant's brief includes a statement that claims 3, 21, and 22 do not stand or fall together with claims 1, 2, 4, and 5, and provides reasons as set forth in 37 CFR 1.192(c)(7) and (c)(8).

(8) Claims Appealed

The copy of the appealed claims contained in the Appendix to the brief is correct.

(9) Prior Art of Record

3,305,011	SMITH, JR.	02-1967
4,850,713	THERY ET AL.	07-1989
2,394,899[1]	CLINGAN	02-1946

(10) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1-5, 21, and 22 are rejected under 35 U.S.C. 103 as being unpatentable over Smith, Jr. in view of Thery et al.

Smith, Jr. discloses a radiant heat exchange panel in which an emissive coating is applied. This coating "may be applied in any suitable manner, as by chemical means such as anodizing . . . followed by subsequent baking or heat treatment . . . or by electrical deposition" (lines 2-11 of column 7). One process expressly suggested by Smith, Jr. is disclosed in Clingan (US patent # 2,394,899, incorporated by reference, see lines 15-20 of column 7 of Smith, Jr.) that forms a "black oxide film or skin". This process involves oxidizing stainless steel or "other alloy steel" articles using alkaline salt baths (see Clingan).

Thery et al. disclose a radiation flux-measuring device that incorporates a highly emissive layer 14 deposited on layers 13a of conductive metal such as copper. One highly preferred method of forming an emissive layer is disclosed at the top of column 11: The existing layers of copper 13c are subject to a

heating step, resulting in the *in situ* formation of a highly emissive copper oxide layer. This copper oxide layer is said to have an emissivity on the order of 1.

Thus, in view of Smith, Jr.'s express suggestion that an emissive coating in the form of a black oxide such as that taught in Clingan may be employed as an emissive coating, and that such emissive coatings may be applied in "any suitable manner", it would have been an obvious substitution of known equivalents to form a copper oxide layer in the manner taught in Thery et al., instead of the ferric oxide layer suggested in Smith, Jr., particularly in view of the high emissivity of the copper oxide coating taught therein. Regarding the language in claim 1 regarding the application of a layer of "oxidizable material on an inner surface and an opposing outer surface of said heat exchanger" note lines 39-43 of column 7 of Smith, Jr. The opposed "both sides" of the webbed tubing of Smith, Jr.'s embodiments of Figs. 2-6 would clearly be readable on the recited "first" and "second" surfaces of the heat exchanger.

Regarding claim 3, it is well known in the art that metal oxides can be formed using alkaline baths, as Clingan indicates for ferric oxide, and to form a copper oxide layer as taught in Thery et al. for high surface emissivity using an alkaline bath instead of a heating step would again have been an obvious substitution of one well known means of forming an oxide layer for another. The Examiner took Official notice of the well-known character of forming copper oxide layers using alkaline solutions in Paper No. 4, and the appellants

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[1] This reference is incorporated by reference into the disclosure of SMITH, JR. as the rejection

have not seasonably challenged the Examiner's assertion of the well-known nature of this method. ***In re Chevenard*, 60 U.S.P.Q. 239**.

Similarly, regarding claims 21 and 22, the Examiner took Official notice of the well-known nature of using spraying and immersion to apply liquids to surfaces being treated in the Final rejection dated 10/09/02 (paper No. 6), and the appellant has not seasonably challenged this assertion, either.

(11) Response to Argument

Appellant's arguments that the prior art "does not suggest . . . the step of applying a layer of oxidizable material on two opposing surfaces of a heat exchanger" ignores the explicit suggestion in lines 39-42 of column 7 that "If radiator 24 is employed in an application in which it is disposed between two areas or articles to be heated, insulation 84 is deleted; and *a high emissivity coating is applied to both sides of the radiator*" (emphasis added) (see Fig. 5). There is nothing in the disclosure or claims which indicates that the terms "inner" and "outer" are anything more than nominal recitations like "first" and "second" (as claims 1 and 8 originally recited). They do not limit the structure claimed in any way beyond requiring opposed surfaces on which an oxidized coating is formed. Compare Fig. 4 of the specification (referred to in the "Summary of the Invention" section of the Brief) with Figs. 2, 3, and 5 of Smith, Jr. Both show a heat exchanger with opposed sides. The claimed "inner" and "outer" surfaces read just as readily on the opposed sides of radiator 24 of

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set forth herein indicates.

Smith, Jr. as they do on the opposed sides of heat exchanger 14 of Fig. 4. Appellant is reading into the claims limitations that simply are not present.

Regarding the teachings of Thery et al., which are necessary primarily for meeting the claims that explicitly call for copper oxide (claims 4 and 5), the expectation of some advantage is the strongest motivation for combining references[2]. In this case, Thery et al. indicate that their copper oxide emissive coating provides a "high emissivity" on the order of one. Since Smith, Jr. explicitly suggests that "coatings [having] emissivity coefficients very close to 1.0 . . . are therefore virtually perfect radiators" (lines 18-23 of column 2), there is clearly strong motivation to apply the high emissivity coating taught in Thery et al. in a radiator of the type disclosed in Smith, Jr.

As for the arguments presented in regard to claims 3, 21, and 22, as indicated above, the Examiner took Official notice in regard to these features previously in the prosecution, and the appellant did not seasonably challenge these assertions. Therefore, these statements are taken to be admitted art. ***In re Chevenard, supra.***

For the above reasons, it is believed that the rejections should be sustained.

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[2] MPEP § 2144, citing In re Sernaker, 217 U.S.P.Q. 1.

Respectfully submitted,

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AJF
January 17, 2003

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